

## PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Assistant Commissioner for Patents  
 United States Patent and Trademark  
 Office  
 Box PCT  
 Washington, D.C.20231  
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 29 August 2000 (29.08.00)	
<b>International application No.</b> PCT/US00/02470	<b>Applicant's or agent's file reference</b> 20568-63474
<b>International filing date (day/month/year)</b> 31 January 2000 (31.01.00)	<b>Priority date (day/month/year)</b> 15 February 1999 (15.02.99)
<b>Applicant</b> OREN, Yair et al	

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:  
 28 June 2000 (28.06.00)

in a notice effecting later election filed with the International Bureau on:  
 \_\_\_\_\_

2. The election  was  
 was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  Diana Nissen
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 25 JAN 2001  
WIPO PCT

Applicant's or agent's file reference 20568-63474	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/02470	International filing date (day/month/year) 31 JANUARY 2000	Priority date (day/month/year) 15 FEBRUARY 1999
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant CHROMATIS NETWORKS, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 28 JUNE 2000	Date of completion of this report 06 DECEMBER 2000
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer LESLIE PASCAL <i>Rugenia Zogor</i>
Facsimile No. (703) 305-3230	Telephone No. (703) 305-4700

**I. Basis of the report****1. With regard to the elements of the international application: \***

- the international application as originally filed
- the description:  
 pages \_\_\_\_\_ (See Attached) \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- the claims:  
 pages \_\_\_\_\_ (See Attached) \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- the drawings:  
 pages \_\_\_\_\_ (See Attached) \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- the sequence listing part of the description:  
 pages \_\_\_\_\_ (See Attached) \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

**2. With regard to the language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.  
 These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

**3. With regard to any nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in printed form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

**4.  The amendments have resulted in the cancellation of:**

- the description, pages \_\_\_\_\_ NONE \_\_\_\_\_
- the claims, Nos. \_\_\_\_\_ NONE \_\_\_\_\_
- the drawings, sheets/fig \_\_\_\_\_ NONE \_\_\_\_\_

**5.  This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\***

*\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

*\*\*Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. statement

Novelty (N)	Claims <u>1</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1</u>	NO
Industrial Applicability (IA)	Claims <u>1</u>	YES
	Claims <u>NONE</u>	NO

## 2. citations and explanations (Rule 70.7)

1. Claim 1 lack an inventive step under PCT Article 33(3) as being obvious over Chawki et al (U.S. Patent number 5,576,875) in view of Yamamoto (U.S. Patent number 5,699,177).

Regarding claim 1, Chawki teaches a network including first and second nodes and closed optical fiber loops for carrying optical signals in both directions between the first and second optical nodes (Station 1, Station 2)(Fig. 5, col. 4, lines 56-67, col. 5, lines 1-40), each of the first and second nodes (Station 1, Station 2) including first means for converting a first optical signal having a first frequency and carried on the first optical fiber into a first electrical signal, second means for demodulating from the first electrical signal information modulated on the first optical signal, third means for providing a second optical at a frequency, fourth means for modulating information on the second optical signal and transmitting the thus-modulated second optical signal on the first optical fiber, fifth means for converting a third optical signal at a frequency and carried on the second optical fiber into a second electrical signal, sixth means for demodulating from the second electrical signal information modulated on the third optical signal, seventh means for providing a fourth optical signal at a first frequency, and eighth means for modulating information on the fourth optical signal and transmitting the thus-modulated fourth optical signal on the second optical fiber.

Chawki differs from claim 1 in that he does not specifically teach a third means for providing a second optical at first frequency. However, as evidenced by Yamamoto, providing a third means for providing a second optical at first frequency (Figs. 2-4, 8, and 13, col. 2, lines 30-67, col. 3, lines 1-60, col. 24, lines 15-67, col. 25, lines 1-67) is well known in the art. Therefore, it would have been obvious to an artisan of ordinary skill at the time of the invention to incorporate the third means for providing a second optical at first frequency as taught by Yamamoto to Chawki in order to add and drop the wanted signals between the nodes in the optical network. This supporting rationale is based on a recognition as a result of attempt by the applicant to solve an unknown problem but merely amount to the selection of expedients known to the artisan of the ordinary (Continued on Supplemental Sheet.)

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

**CLASSIFICATION:**

The International Patent Classification (IPC) and/or the National classification are as listed below:

IPC(7): H04J 14/00, 14/02, 1/06; G02B 6/12, 6/293, 6/28; H04B 10/20, 10/08, 10/12; H01S 3/16 and US Cl.: 359/130, 128, 125, 119, 341, 124, 127; 385/ 14, 24; 370/16.1

**I. BASIS OF REPORT:**

This report has been drawn on the basis of the description,  
page(s) 1-24, as originally filed.  
page(s) NONE, filed with the demand.  
and additional amendments:  
NONE

This report has been drawn on the basis of the claims,  
page(s) NONE, as originally filed.  
page(s) NONE, as amended under Article 19.  
page(s) NONE, filed with the demand.  
and additional amendments:  
page 25, filed with the letter of 13 November 2000

This report has been drawn on the basis of the drawings,  
page(s) 1-12, as originally filed.  
page(s) NONE, filed with the demand.  
and additional amendments:  
NONE

This report has been drawn on the basis of the sequence listing part of the description:  
page(s) NONE, as originally filed.  
pages(s) NONE, filed with the demand.  
and additional amendments:  
NONE

**V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):**

skill as design choice.

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mizrahi (U.S. Patent number 6,069,719) teaches dynamically reconfigurable optical add-drop multiplexers for WDM optical communication systems.

Terahara (U.S. Patent number 6,061,157) teaches optical wavelength multiplexing and demultiplexing device and an optical transmission system using the same.

## ----- NEW CITATIONS -----

US 5,699,177 A (YAMAMOTO) 16 December 1997, Figs. 2 and 13, col. 24, lines 15-67, col. 25, lines 1-67.

US 6,069,719 A (MIZRAHI) 30 May 2000, Fig. 1, col. 2, lines 45-67, cols. 3-5, lines 1-67.

US 6,061,157 A (TERAHARA) 09 May 2000, Figs. 1 and 2, col. 4, lines 20-67, cols. 5-7, lines 1-67.

CLAIMS:

1. A network including first and second nodes and closed optical fiber loops for carrying optical signals in both directions between the first and second nodes, each of the first and second nodes including first means for converting a first optical signal having a first frequency and carried on the first optical fiber into a first electrical signal, second means for demodulating from the first electrical signal information modulated on the first optical signal, third means for providing a second optical signal at the first frequency, fourth means for modulating information on the second optical signal and transmitting the thus-modulated second optical signal on the first optical fiber, fifth means for converting a third optical signal at the first frequency and carried on the second optical fiber into a second electrical signal, sixth means for demodulating from the second electrical signal information modulated on the third optical signal, seventh means for providing a fourth optical signal at the first frequency, and eighth means for modulating information on the fourth optical signal and transmitting the thus-modulated fourth optical signal on the second optical fiber.